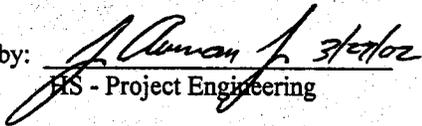


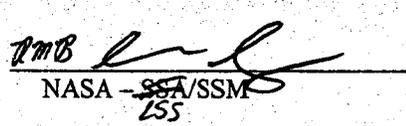
NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
REAL TIME DATA SYSTEM HARNESS, ITEM 156 ----- SV789134-2 (1)	2/1RB	156FM01 Electrical short in +5.6V supply line to 174 RTDS. Cable chafing against connector shell or shield. Improper connector strain relief.	END ITEM: DCM DC/DC converter current increases until converter current limiter trips (1.8+/-0.25 amps) and shuts off converter. GFE INTERFACE: Loss of DCM DC/DC converter and CWS. Loss of DCM display, CWS, tones and ability to monitor EMU. MISSION: None. CREW/VEHICLE: None for single failure. Possible crew loss with loss of CCC, vent flow, or oxygen. TIME TO EFFECT /ACTIONS: Minutes. TIME AVAILABLE: Minutes. TIME REQUIRED: Minutes. REDUNDANCY	A. Design - Each connector/cable interface is strain relieved by potting the connectors in place with a rubber boot molded over the connector/cable interface. Wire is #24 AWG teflon coated to provide electrical and mechanical properties to prevent cracking of the insulation. Each connector/adaptor ring interface is locked in place to prevent rotation by a mechanical lock and an adhesive lock. B. Test - Component Acceptance Test The 156 harness is subjected to acceptance testing prior to final acceptance. This testing includes the following tests which Ensure there are no workmanship problems which would cause an open circuit in the +5.6V supply line to RTDS. a. Continuity testing of each conductor after completion of harness pull testing to Ensure there are no open circuits. The pull test (4.5 to 7.5 pounds, depending on connector size) is designed to pre-stress each connector/ cable interface to detect problems which would cause open circuits. PDA Test - The +5.6V supply line to the RTDS is checked during PLSS PDA testing per SEMU-60-010, to Ensure there are no open circuits which would affect PLSS functions. Certification Testing - Certified for a useful life of 20 years (ref. EMUM1-0244). C. Inspection - To ensure there are no workmanship problems which would cause a short circuit in the harness conductors, the following inspections are performed: a. Harness cables and conductors are visually inspected prior to assembly to ensure there are no defects which could cause a short to ground or an open circuit due to defects in the cable insulation. b. Connector wiring is inspected before and after potting to ensure there is no conductor damage and that the conductors are properly strain relieved and properly dressed to prevent conductor shorting to the adapter ring or an open circuit. c. Insulation resistance and dielectric strength are measured between each conductor and shield ground to ensure there are no shorts prior to and after potting of the connectors. D. Failure History - None. E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Real Time Data System (RTDS). FEMU-R-001 Para 8.2 EMU Preflight KSC Checkout for EET processing. F. Operational Use - Crew Response - PreEVA: Trouble shoot, if no success, consider third EMU if available. Otherwise EMU is no go for EVA. EVA: No response, single failure not detectable by crew or ground. If detected indirectly (i.e., through CWS status inquiries or RTDS), defective EMU

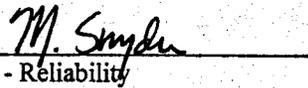
NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
		156FM01		
			SCREENS: A-PASS B-FAIL C-PASS	terminates EVA to standby on SCU. Training - Standard EMU training covers this failure mode. Operational Considerations - Reference Loss/Failure flight rules: define go/no-go criteria related to CWS. EVA checklist and FDF procedures verify hardware integrity and systems operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT
SYSTEMS SAFETY REVIEW PANEL REVIEW
FOR THE
I-156 REAL TIME DATA SYSTEM HARNESS
CRITICAL ITEM LIST (CIL)

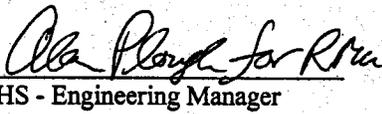
EMU CONTRACT NO. NAS 9-97150

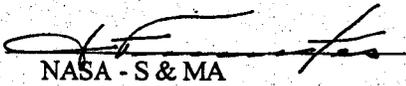
Prepared by: 
HS - Project Engineering

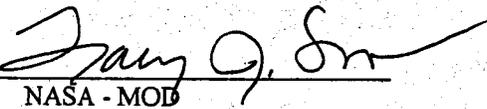
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NASA - SSA/SSM
ISS

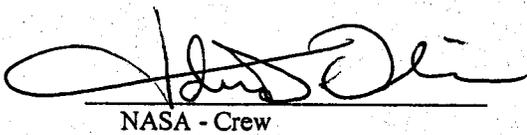

HS - Reliability

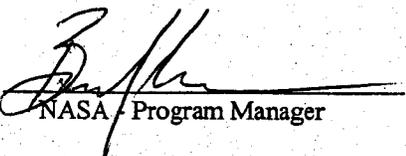

NASA - EMU/SSM


HS - Engineering Manager


NASA - S & MA


NASA - MOD


NASA - Crew


NASA - Program Manager